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MICHAEL BEST & FRIEDRICH, LLP
100 E WISCONSIN AVENUE
MILWAUKEE, WI 53202

EXAMINER

GREENE, JASON M

ART UNIT PAPER NUMBER

1724

DATE MAILED: 01/15/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/932,426

Applicant(s)

SANDBERG, LESLYE

Examiner

Jason M. Greene

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6-9, and 27-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 6-9, 27, and 28, the phrase "type" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "type"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim 29 recites the limitation "the periphery" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claims 30-32 recite the limitation "the media filter" in lines 1, 2, and 1, respectively. There is insufficient antecedent basis for this limitation in the claim. The Examiner suggests changing the limitation to read as "the filter media".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-4 and 10-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Bennington et al.

With regard to claims 1 and 3, Bennington et al. discloses a filter assembly comprising a semi-rigid self supporting filter media (54) configured to filter non-gaseous

items from a gas flow, and a plurality of attachment strips (56,58), each strip having a first portion (56) attachable to the filter media (54) and a second portion (58) attachable to a housing (22) surrounding an intake (26) in Fig. 2, col. 3, lines 44-46, and col. 4, line 41 to col. 5, line 25.

With regard to claim 2, Bennington et al. discloses the filter media being washable in col. 5, lines 54-65.

With regard to claim 4, Bennington et al. discloses the filter being UV protected in Fig. 2 and col. 3, lines 44-46.

With regard to claim 10, Bennington et al. discloses the filter assembly being deformable to match the contour of the housing around the intake in Fig. 2.

With regard to claim 11, Bennington et al. discloses the attachment strips (56,58) surrounding the perimeter of the filter media (54) in Fig. 2.

With regard to claims 12-14, Bennington et al. discloses the first portion (56) including a first adhesive side, the first adhesive side being attachable to the filter media (54), and the second portion (58) including a first adhesive side attached to the housing, wherein the first portion includes a second side and the second portion includes a second side, wherein the second sides of the first and second portions are removably

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attachable to each other by hook and loop fasteners in Fig. 2 and col. 4, line 41 to col. 5, line 25.

6. Claims 15 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Fiske.

With regard to claim 15, Fiske discloses a filter assembly comprising a filter media (6), a deformable frame (1,5) positioned around at least a portion of the filter media, and attachment strips (4) having first sides and second sides, the first sides being attached to the deformable frame and the second sides being removably attached to a housing (3) surrounding an inlet (8) in Figs. 1-8 and col. 2, line 6 to col. 3, line 27.

With regard to claim 23, Fiske discloses the frame (1,5) being made of a flexible polymer (vinyl) in col. 2, lines 8-16.

7. Claim 29 is rejected under 35 U.S.C. 102(e) as being anticipated by Bennington et al.

Bennington et al. discloses a method of mounting a filter to an air intake (26) on a housing (22) comprising selecting a filter media (54), forming the filter media to a desired size to match the size and contours of the intake, fitting attachment strips (56) along the periphery of the filter media, and securing the filter media to an intake with the attachment strips in Fig. 2, col. 3, lines 44-46, and col. 4, line 41 to col. 5, line 25. The

steps of selecting the filter media and forming the filter media to a desired size to match the size and contours of the intake are seen as being performed during the manufacturing process prior to the attachment strips being fitted along the periphery of the filter media.

8. Claims 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Fiske.

Fiske discloses a method of mounting a filter to an air intake (8) on a housing (3) comprising selecting a filter media (6), forming the filter media to a desired size to match the size and contours of the intake, wherein forming the filter media includes cutting the filter media, positioning a deformable frame (1,5) around the periphery of the filter media, fitting attachment strips (4) along the periphery of the filter media (on the deformable frame), and securing the filter media to an intake with the attachment strips in Figs. 1-8 and col. 2, line 6 to col. 3, line 27.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennington et al. in view of Rosen.

Bennington et al. does not disclose the filter being permanently electrostatically charged to facilitate the pickup of dust and other airborne contaminants.

Rosen teaches permanently electrostatically charging filter to facilitate the pickup of dust and other airborne contaminants in col. 3, lines 11-16 and col. 4, lines 45-69.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the permanent electrostatic charge of Rosen et al. into the filter of Bennington et al. to facilitate the pickup of dust and other airborne contaminants, as suggested by Rosen in col. 3, lines 11-16 and col. 4, lines 45-69.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennington et al. in view of Stemmer.

Bennington et al. does not disclose the filter media being a three-dimensional type filter.

Stemmer discloses a similar filter assembly wherein the filter media comprises a three-dimensional type filter (12) in Figs. 1 and 3 and col. 2, lines 19-34.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the three-dimensional type filter of Stemmer into the filter assembly of Bennington et al. to provide a filter media having a filtering area 8 to 12 times greater than the inlet area, as suggested by Stemmer in col. 2, lines 32-34.

12. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennington et al. and Stemmer as applied to claim 6 above, and further in view of Chapman.

With regard to claim 7, Bennington et al. and Stemmer do not disclose the three-dimensional type filter being made from a synthetic polymer fiber.

Chapman discloses forming similar filters from synthetic polymer fiber in col. 3, lines 39-55.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the three-dimensional type filter of Bennington et al. and Stemmer using the synthetic polymer fiber of Chapman to provide a filter that is capable of being electrostatically charged to facilitate the pickup of dust and other airborne contaminants, as suggested by Chapman in col. 3, lines 39-55.

With regard to claims 8 and 9, Bennington et al. does not disclose the three-dimensional type filter including a corrugated layer and a base layer that is interwoven with the corrugated layer or the three-dimensional type filter including a top layer that is interwoven with the corrugated layer such that the corrugated layer is between the base layer and the top layer.

Stemmer discloses a similar filter assembly wherein the three-dimensional type filter includes a corrugated layer (12) and a top layer (14) that is adhered to the corrugated layer in Figs. 1 and 3 and col. 2, lines 11-53.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the top layer of Stemmer into the filter of Bennington et al. to provide a pre-filter which substantially prevents particles from reaching and clogging the corrugated layer, as suggested by Stemmer in col. 2, lines 45-48.

Bennington et al. and Stemmer do not disclose the top layer being interwoven with the corrugated layer or the three-dimensional type filter including a base layer that is interwoven with the corrugated layer such that the corrugated layer is between the base layer and the top layer.

Chapman discloses a similar filter wherein a top layer (14) and base layer (16) are interwoven (needle-punched) with a central layer in Figs. 1 and 4-6 and col. 2, line 58 to col. 3, line 26.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the base layer of Chapman into the filter of Bennington et al. and Stemmer to provide additional structural integrity to the filter media, as suggested by Chapman in col. 2, lines 63-64.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the needle-punch interweaving of Chapman into the filter of Bennington et al. and Stemmer to eliminate the need to adhere adjacent layers together to prevent the filter media from outgassing.

13. Claims 15, 22, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conroy in view of Fiske.

With regard to claim 15, Conroy discloses a filter assembly comprising a filter media (20), a deformable frame (30) positioned around at least a portion of the filter media, and an attachment strip (40) having a first side and a second side, the first side being attached to the deformable frame and the second side being removably attached to a housing (12) surrounding an inlet (14) in Figs. 1-4 and col. 3, line 54 to col. 4, line 47.

Conroy does not disclose the attachment strip being formed as a plurality of attachment strip sections.

Fiske discloses a similar filter assembly wherein an attachment strip (4) is formed as a plurality of attachment sections in Figs. 1-8 and col. 2, line 5 to col. 3, line 27.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the sectional attachment strip arrangement of Fiske into the filter assembly of Conroy to allow a damaged section of the attachment strip of Conroy to be replaced without having to replace the entire attachment strip.

With regard to claim 22, Conroy discloses the frame (30) being substantially rigid in Figs. 1-3.

With regard to claims 24 and 25, Conroy discloses the attachment strips (40) being flexible magnetic strips in Figs. 2 and 4 and col. 4, lines 14-47.

With regard to claim 26, Conroy does not explicitly disclose the magnetic strips being attached to the frame by adhesive.

Conroy discloses attaching a similar attachment strip (40) using an adhesive (42) in Fig. 4 and col. 4, lines 18-23.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the adhesive attachment of f Conroy into the filter assembly of Conroy to allow the attachment strips to attached to a non-ferrous frame, as suggested by Conroy in col. 4, lines 18-23.

14. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiske or Conroy and Fiske as applied to claim 15, and further in view of Roth.

Fiske and Conroy do not disclose the filter assembly further comprising a support structure, wherein the frame is at least positioned around at least a portion of the support structure, wherein the filter media and the support structure are adjacent to each other within the frame, wherein the frame completely surrounds the perimeter of the filter media and the support structure, wherein the support structure is a metal screen, or wherein the metal screen is an expanded media designed to allow air flow.

Roth discloses a similar filter assembly (10) comprising a support structure (12), wherein a frame (16) is at least positioned around at least a portion of the support structure, wherein a filter media (11) and the support structure (12) are adjacent to each other within the frame, wherein the frame completely surrounds the perimeter of the filter media and the support structure, wherein the support structure (12) is a metal

screen, and wherein the metal screen is an expanded media designed to allow air flow in Figs. 1 and 2 and col. 1, line 56 to col. 2, line 3.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the support structure of Roth in the filter assemblies of Fiske or Conroy and Fiske to provide additional support means for the filter element without unduly increasing the pressure drop across the filter assembly.

15. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fiske or Conroy and Fiske as applied to claim 15, and further in view of Vogt et al.

Fiske discloses the frame including thin walled C-shaped channels in Fig. 1. Conroy discloses the frame including thin walled C-shaped channels in Fig. 3.

Fiske and Conroy do not explicitly disclose the frame being formed from metal.

Vogt et al. discloses a similar filter assembly including a frame (14) having thin walled C-shaped channels in Fig. 1 and col. 3, lines 13-17.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the metal frame material of Vogt et al. into the filter assemblies Fiske or Conroy and Fiske to provide a structurally sound frame for supporting the filter media.

16. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fiske or Conroy and Fiske as applied to claim 15, and further in view of Stemmer.

Fiske and Conroy do not disclose the filter media being a three-dimensional type filter.

Stemmer discloses a similar filter assembly wherein the filter media comprises a three-dimensional type filter (12) in Figs. 1 and 3 and col. 2, lines 19-34.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the three-dimensional type filter of Stemmer into the filter assemblies of Fiske or Conroy and Fiske to provide a filter media having a filtering area 8 to 12 times greater than the inlet area, as suggested by Stemmer in col. 2, lines 32-34.

17. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fiske, Conroy, and Stemmer as applied to claim 27, and further in view of Rosen.

Fiske, Conroy, and Stemmer do not disclose the filter being permanently electrostatically charged to facilitate the pickup of dust and other airborne contaminants.

Rosen teaches permanently electrostatically charging filter to facilitate the pickup of dust and other airborne contaminants in col. 3, lines 11-16 and col. 4, lines 45-69.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the permanent electrostatic charge of Rosen et al. into the filter assemblies of Fiske, Conroy, and Stemmer to facilitate the pickup of dust and other airborne contaminants, as suggested by Rosen in col. 3, lines 11-16 and col. 4, lines 45-69.

18. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennington et al. in view of Fiske.

Bennington et al. does not explicitly disclose forming the filter media including cutting the filter media.

Fiske explicitly discloses cutting a filter media to form the filter media to a desired size in col. 2, lines 61-67.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the cutting of Fiske et al. into the method of Barrington et al. to ensure that the filter media has the desired dimensions.

19. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fiske in view of Bennington et al.

Fiske does not explicitly disclose forming the filter media including deforming the filter media and deformable frame.

Bennington et al. discloses installing a similar filter over an air inlet having a contour such that the filter must be deformed to be mounted over the inlet in Figs. 1 and 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the deforming of the filter of Barrington et al. into the method of Fiske to allow the filter of Fiske to be installed over non-planar inlets. The Examiner notes that since the deformable frame of Fiske is formed from a highly flexible

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vinyl gasket material, the filter and frame of Fiske can easily be deformed to be installed over a non-planar inlet.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Hayes, Catron, and Killman references disclose similar filter assemblies.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (703) 308-6240. The examiner can normally be reached on Tuesday - Friday (7:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Simmons can be reached on (703) 308-1972. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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Jason M. Greene
Examiner
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jmg
January 9, 2003